

ADVANCE  
5/65  
J1B / J2B

# Introduction

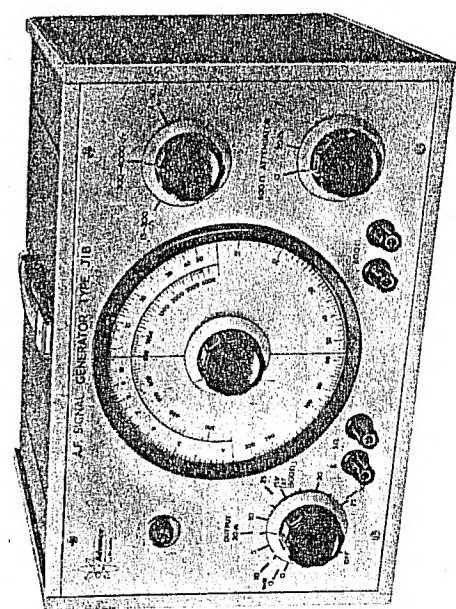
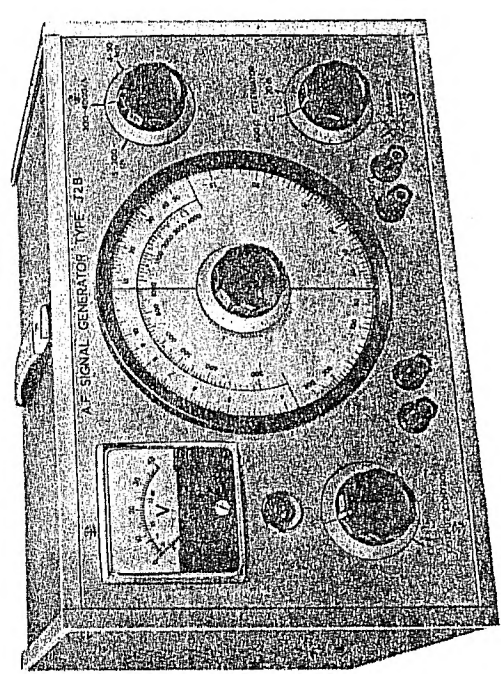
## Section 1

The J1B and J2B Signal Generators, like their well-established fore-runners the J1 and J2, are two similar instruments which provide sinusoidal outputs in the frequency range 15c/s to 50kc/s. Two separate output arrangements with continuous level control are provided on each instrument. One output is of 600 $\Omega$  impedance and isolated from earth, having a maximum output level of 1W; the alternative output has an impedance of 5 $\Omega$  connected to earth and with an output level of at least 500 milliwatts.

The J1B version of the instrument uses a calibrated output control to give an indication of output level, while the J2B output level is indicated on a front panel meter.

Each instrument contains a resistance-capacitance Wien bridge oscillator which is connected to the output stage via a buffer amplifier. The inherent stability of the oscillator and the use of feedback circuits contribute to an output which is substantially constant over the whole frequency range. Overall distortion at full output power is less than 2% (34dB down on fundamental).

The J1B and J2B operate from a.c. power supplies of 105 to 125V and 210 to 250V, 40 to 100c/s.



## Specification

### Section 2

#### Frequency Ranges

A - 4kc/s to 50kc/s

B - 300c/s to 4kc/s

C - 15c/s to 300c/s

Accuracy  $\pm (2\% + 1c/s)$ .

#### Output

Output into 600 $\Omega$  0.1mW to 1W  
(0.25V to 25V), continuously variable.

Accuracy: Model J1B  $\pm$  2dB

Model J2B  $\pm (1dB + 1.5\%$   
F.S.D.)

Maximum output into 5 $\Omega$  greater  
than 500mW, continuously variable.

#### Output Impedance

The output impedance approximates  
to 600 $\Omega$  over the whole range. Where  
close accuracy is required the 20dB  
attenuator should be used.

#### Attenuator

A 20dB 600 $\Omega$  attenuator is incorpor-  
ated. This is a  $\pi$  pad built of close  
tolerance resistors.

When switched in circuit it provides  
a very accurate output impedance  
with a maximum output of 10mW  
(2.5V).

## Specification

### Section 2

#### Distortion

Total harmonic and hum content as  
compared with fundamental, above  
100c/s:

better than 34dB down (2%) at  
full output

better than 40dB down (1%) at  
100mW.

There is a slight increase in dis-  
tortion below 100c/s, but it is still  
low, down to 15c/s.

#### Power Supplies

J1B, J2B: 105 to 125V, 210 to 250V,  
a.c. only, 40 to 100c/s.

#### Consumption

Approximately 40W.

#### Dimensions

11 1/8in. wide, 7 5/8in. high,  
9 5/8in. deep (28.3 x 19.4 x 24.4  
cm).

#### Weight

20 lb (9.1kg).

#### Finish

Light blue case and side panels with  
other grain finish, medium grey  
painted frame with light grey front  
panel.

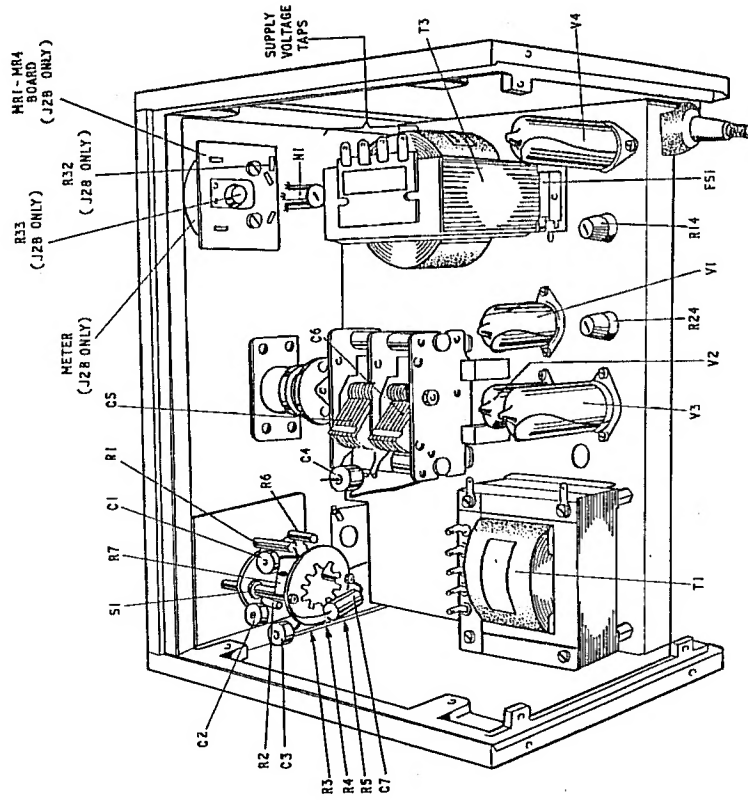


Fig. 3 Component layout - top view

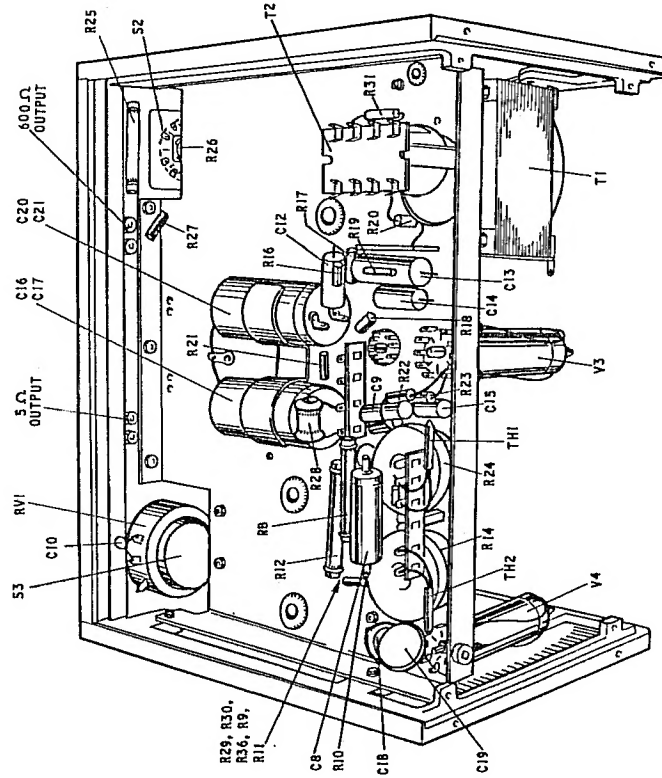


Fig. 4 Component layout - underside view



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Fig. 5 J1B & J2B circuit diagram

IS	Description	Part No.
LLANIDS	EC588	4344
	6C1 (EC59)	4349
	7L44	12748
	8241	13070
	Flare 500mA B/Lee L1055	332
	Resistor Mollard 0X70 Q/B only	342
	Meter 0-40V AC 0-0.3mA DC Q/B only	A13132
	New pilot lamp 100-125V	1165
	Range switch D No. A476	17267
	Alternator switch	7702
	Main switch	
	Output transformer low	NT315
	Output transformer high	NT316
	Main transformer	NT314b
	Input 100-125V 210-250V } 60-100V/n	
	STAC Thermistor 1322/100	6119
	Thermistor A14	7411
	Instruction Manual	17869